The proves of these young bulls tested within one of these breeding populations have expectations that are linear functions of G_S, G_N and H. The first letter of the subscript denotes the origin of the sire of the young bull and the second letter of the subscript denotes the breed of the test population.

The following relations can be obtained :

$$A = \bar{I}_{1/2SN} - \bar{I}_{NN} = \tfrac{1}{2} D+H$$

$$B = \bar{I}_{1/2NS} - \bar{I}_{SS} = -\tfrac{1}{2} D+H$$

where $\bar{I}$ attached with subscripts are mean performance of different breed groups tested in different population.

Thus, it follows that :

$$H = \tfrac{1}{2} (A+B)$$

$$D = A - B$$

Henceforth, the crossbreeding parameters of interest can be estimated by combining the proves of the young bulls used in these two cooperative breeding populations.

Communications libres

THE INFLUENCE OF ERRORS IN GENETIC COVARIANCES ON THE EFFICIENCY OF A COW INDEX

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The purpose of this study was to examine the influence of errors in estimates of genetic covariances on the efficiency of a cow selection index. The indexes utilised information obtained from the cow's own three records, or these three records together with the records of groups of paternal half-sisters. The efficiency was studied by correlating the estimates with indexes based on genetic parameters estimated with errors.

The efficiency of indexes calculated from genetic covariances estimated with an error decreased as the error itself increased. Large losses of efficiency, however, only occurred with very serious under- and over-estimations. Moderate errors were found not to affect efficiency substantially particularly when the index contained large amounts of information.

EIN VERGLEICH DER « CUMULATIVE DIFFERENCE » METHODE MIT DER « SIRE COMPARISON » METHODE

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Von LENZ, MILLER und HENDERSON (1969) wurde die Sire comparison Methode und von BAR-ANAN und SACHS die cumulative Differenzmethode zur Zuchtwertschätzung der Bullen vorgeschlagen, wenn ein genetischer Trend oder sonstige systematische genetische Unterschiede in der Population vorhanden sind. Die Sire comparison Methode schätzt die Zuchtwerte mit Hilfe von Blup (Best linear unbiased prediction). Die cumulative Differenzmethode ist eine Weiterentwicklung der Contemporary comparison Methode, wobei das genetische Niveau der Zeitgefährtinnen berücksichtigt wird. An einem einfachen Beispiel wurde gezeigt, dass die cumulative Differenzmethode den Einfluss des genetischen Niveaus der Vergleichstiere nicht voll ausschaltet. Der geschätzte Zuchtwert eines Tieres hängt nach wie vor davon ab, ob die Zeitge-